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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP 03/10731	International filing date *(day/month/year)* 26.09.2003	Priority date *(day/month/year)* 26.09.2002
International Patent Classification (IPC) or both national classification and IPC G07B17/00		
Applicant NEOPOST INDUSTRIE SA		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

   ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 11 sheets.

3. This report contains indications relating to the following items:

   - I ☒ Basis of the opinion
   - II ☐ Priority
   - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV ☐ Lack of unity of invention
   - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - VI ☐ Certain documents cited
   - VII ☐ Certain defects in the international application
   - VIII ☐ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
26.04.2004	09.02.2005
Name and mailing address of the international preliminary examining authority: European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Reule, D Telephone No. +31 70 340-3868

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP 03/10731

I. Basis of the report

1. With regard to the **elements** of the international application *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*:

Description, Pages

1-40	as originally filed

Claims, Numbers

1-33, 34 (part), 41-64	received on 08.01.2005 with letter of 04.01.2005
34 (part), 35-40	filed with telefax on 26.01.2005

Drawings, Sheets

1/22-22/22	as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

   These elements were available or furnished to this Authority in the following language: , which is:

   ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).

   ☐ the language of publication of the international application (under Rule 48.3(b)).

   ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

   ☐ contained in the international application in written form.

   ☐ filed together with the international application in computer readable form.

   ☐ furnished subsequently to this Authority in written form.

   ☐ furnished subsequently to this Authority in computer readable form.

   ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

   ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

   ☐ the description, pages:

   ☐ the claims, Nos.:

   ☐ the drawings, sheets:

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-64
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-64
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-64
	No:	Claims	

2. Citations and explanations

see separate sheet

INTERNATIONAL PRELIMINARY EXAMINATION REPORT - SEPARATE SHEET

International application No. PCT/EP 03/10731

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

D1: US-A-5 898 153 - 27 April 1999
D2: GB-A-2 174 039 - 29 October 1986
Do: US-A-5 495 981 - 5 March 1996
D4: US 2002/087493 A1 - 4 July 2002
D5: US-A-4 445 635 - 1 May 1984

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The present International Application meets the requirements given by the PCT, because the subject-matter of claims 1-64 appears to be new, to involve an inventive step, and to be industrially applicable in the sense of Article 33(1)-(4) PCT.

Document D4 is regarded as being the closest prior art to the subject matter of claim 1 and shows a mail preparation system for the preparation of a series of mail items in which postal indicia are printed on the mail items. When a mail item is spoiled or damaged this spoiled item will be withdrawn from the mail stream. As a postage charge has béen accounted for this spoiled mail item by the postage meter, a determination is made whether the indicium that was created for the spoiled item can be used for a subsequent item. If so, a substitute indicium is created. The substitute indicium is a modification of the unused indicium and contains an indication that it is a substitute indicium (cf. D4; abstract, claim , paragraphs [0002]-[0012], [0037]).

The subject-matter of claim 1 differs from this known D4 in that each item contains two parts: an element with an authentication code and sensitive information. When an item is spoiled the element bearing the authentication code is presented either for refund or reuse to a third party, such that the sensitive information is not made available to that third party.

The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

The problem to be solved by the present invention may be regarded as how a value that was applied on spoiled items and for which the user was charged can be refunded (or reused) in a simpler manner.

The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) as none of the prior art documents, either alone or in combination with any prior knowledge, mentions that only the element which bears the authentication code, and thus the value information, is presented either for refund or reuse (of the identical element) to a third party, such that the sensitive information is not made available to that third party.

Independent claim 34 refers to a corresponding system with essentially the same features and is therefore also considered as being new and inventive (Article 33(2)(3) PCT).

Claims 2 to 33 and 35 to 64 are dependent on claim 1 and 34 respectively, and as such also meet the requirements of the PCT with respect to novelty and inventive step.

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CLAIMS

1. An item handling system for handling items in an item stream, the system comprising:
a validation unit for validating an element containing an authentication code on each item in an item stream, wherein an item is assigned as being spoiled where the element does not satisfy at least one validation criterion; and
a sorting unit for separating spoiled items from the item stream.

2. The system of claim 1, wherein the validation unit is operative to scan each item for an element.

3. The system of claim 2, wherein the at least one validation criterion requires the element to have at least one physical characteristic.

4. The system of claim 3, wherein the at least one physical characteristic comprises at least one of a position, size and color of the element.

5. The system of any of claims 1 to 4, wherein the validation unit is operative to read data from the element.

6. The system of claim 5, wherein the at least one validation criterion requires authentication of at least part of the read data.

7. The system of claim 6, wherein the authentication of at least part of the read data requires the at least part of the read data to have a predeterminable format.

8. The system of claim 6, wherein the authentication of at least part of the read data requires the at least part of the read data to match check data.

9. The system of any of claims 1 to 8, wherein the element is a printed imprint.

10. The system of claim 9, wherein the imprint is a two-dimensional barcode.

11. The system of any of claims 1 to 8, wherein the element is an electronic label.

12. The system of claim 11, wherein the electronic label is a radio frequency tag.

13. The system of any of claims 1 to 12, wherein the items bear sensitive information.

14. The system of claim 13, wherein the sensitive information is printed on the items.

15. The system of claim 13, wherein the items include an electronic label containing the sensitive information.

16. The system of claim 15, wherein the electronic label is a radio frequency tag.

17. The system of any of claims 13 to 16, further comprising:
a perforating unit for perforating each spoiled item about the element such as to allow a section of the item including the element and excluding the sensitive information to be separated.

18. The system of any of claims 13 to 16, wherein each item is perforated about a section including the element, such as to allow the section of the item including the element and excluding the sensitive information to be separated.

19. The system of any of claims 13 to 16, wherein the element is removable from the item such as to allow the element to be separated.

20. The system of any of claims 13 to 16, wherein each item includes a label on which the element is provided, such as to allow the element to be separated by removal of the label.

21. The system of any of claims 13 to 16, wherein the sensitive information is encoded.

22. The system of any of claims 13 to 16, further comprising:
an obliteration unit for obliterating the sensitive information on each spoiled item.

23. The system of claim 22 when appendant upon claim 14, wherein the obliteration unit comprises a printer for over-printing the sensitive information such as to render the sensitive information unreadable.

24. The system of claim 22 when appendant upon claim 14, wherein the obliteration unit comprises an applicator for applying a panel over the sensitive information such as to render the sensitive information unreadable.

25. The system of claim 22, wherein the obliteration unit comprises a cutter for cutting out a section of each spoiled item including the sensitive information such that the item includes no sensitive information.

26. The system of any of claims 13 to 16, further comprising:
a packaging unit for packaging each spoiled item such as to conceal the sensitive information.

27. The system of any of claims 1 to 16, wherein each item includes a cover sheet on which the element is provided, such as to allow the cover sheet including the element to be separated from the item.

28. The system of claim 27 when appendant upon claim 13, wherein the cover sheet includes no sensitive information.

29. The system of any of claims 1 to 28, further comprising:
a control unit for controlling operation of the system.

30. The system of claim 29, wherein the control unit is operative to generate a spoiled item notification in respect of each spoiled item for communication to a remote center.

31. The system of claim 30, wherein the control unit includes a communications module for electronically communicating with the remote center, whereby the spoiled item notifications are transmitted electronically to the remote center.

32. The system of claim 31, wherein each spoiled item notification is transmitted separately.

33. The system of claim 31, wherein the spoiled item notifications are transmitted in batches at predeterminable intervals.

34. The system of any of claims 30 to 33, wherein the validation unit is operative to acquire an image of each spoiled element, and each spoiled item notification includes an image of the respective spoiled element.

35. The system of claim 34 when appendant upon claim 13, wherein the image excludes the sensitive information.

36. The system of any of claims 1 to 35, wherein the authentication code embodies value.

37. The system of claim 36 when appendant upon claim 29, wherein the control unit includes a refund credit register and is operative to credit the refund credit register in respect of the value as applied to each spoiled item.

38. The system of claim 36, wherein the control unit is operative to provide for reuse of the authentication code contained in the element of each spoiled item.

39. The system of claim 38, further comprising:
a writing unit for writing an element on each item; and
wherein the control unit is operative to control the writing unit to write an element containing the authentication code contained in the element of a previous item assigned as being spoiled.

40. The system of claim 39 when appendant upon claim 9, wherein the writing unit comprises a printing unit for printing an imprint as an element on each item.

41. The system of claim 39 when appendant upon claim 11, wherein the writing unit comprises an electronic label writer for writing to an electronic label as an element on each item.

42. The system of any of claims 1 to 41, wherein the items comprise documents.

43. The system of claim 42, wherein the documents comprise one or more sheets.

44. The system of claim 42 or 43, wherein the documents comprise mail documents.

45. The system of any of claims 1 to 41, where the items comprise document carriers.

46. The system of claim 45, wherein the document carriers comprise envelopes.

47. The system of claim 45 or 46, wherein the document carriers comprise mail carriers.

48. A method of handling items in an item stream, the method comprising the steps of:
validating an element containing an authentication code on each item in an item stream, wherein an item is assigned as being spoiled where the element does not satisfy at least one validation criterion; and
separating spoiled items from the item stream.

49. The method of claim 48, wherein each item is scanned for an element in the validation step.

50. The method of claim 49, wherein the at least one validation criterion requires the element to have at least one physical characteristic.

51. The method of claim 50, wherein the at least one physical characteristic comprises at least one of a position, size and color of the element.

52. The method of any of claims 48 to 51, wherein data is read from each element in the validation step.

53. The method of claim 52, wherein the at least one validation criterion requires authentication of at least part of the read data.

54. The method of claim 53, wherein the authentication of at least part of the read data requires the at least part of the read data to have a predeterminable format.

55. The method of claim 53, wherein the authentication of at least part of the read data requires the at least part of the read data to match check data.

56. The method of any of claims 48 to 55, wherein the element is a printed imprint.

57. The method of claim 56, wherein the imprint is a two-dimensional barcode.

58. The method of any of claims 48 to 55, wherein the element is an electronic label.

59. The method of claim 58, wherein the electronic label is a radio frequency tag.

60. The method of any of claims 48 to 59, wherein the items bear sensitive information.

61. The method of claim 60, wherein the sensitive information is printed on the items.

62. The method of claim 60, wherein the items include an electronic label containing the sensitive information.

63. The method of claim 62, wherein the electronic label is a radio frequency tag.

64. The method of any of claims 60 to 63, further comprising the step of: perforating each spoiled item about the element such as to allow a section of the item including the element and excluding the sensitive information to be separated.

65. The method of any of claims 60 to 63, wherein each item is perforated about a section including the element, such as to allow the section of the item including the element and excluding the sensitive information to be separated.

66. The method of any of claims 60 to 63, wherein the element is removable from the item such as to allow the element to be separated.

67. The method of any of claims 60 to 63, wherein each item includes a label on which the element is provided, such as to allow the element to be separated by removal of the label.

68. The method of any of claims 60 to 63, wherein the sensitive information is encoded.

69. The method of any of claims 60 to 63, further comprising the step of: obliterating the sensitive information on each spoiled item.

70. The method of claim 69 when appendant upon claim 61, wherein the obliterating step comprises the step of:
over-printing the sensitive information such as to render the sensitive information unreadable.

71. The method of claim 69 when appendant upon claim 61, wherein the obliterating step comprises the step of:
applying a panel over the sensitive information such as to render the sensitive information unreadable.

72. The method of claim 69, wherein the obliterating step comprises the step of:
cutting out a section of each spoiled item including the sensitive information such that the item includes no sensitive information.

73. The method of any of claims 60 to 63, further comprising the step of:
packaging each spoiled item such as to conceal the sensitive information.

74. The method of any of claims 48 to 63, wherein each item includes a cover sheet on which the element is provided, such as to allow the cover sheet including the element to be separated from the item.

75. The method of claim 74 when appendant upon claim 60, wherein the cover sheet includes no sensitive information.

76. The method of any of claims 48 to 75, further comprising the step of:
generating a spoiled item notification in respect of each spoiled item for communication to a remote center.

77. The method of claim 76, further comprising the step of:
electronically transmitting the spoiled item notifications to the remote center.

78. The method of claim 77, wherein each spoiled item notification is transmitted separately.

79. The method of claim 77, wherein the spoiled item notifications are transmitted in batches at predeterminable intervals.

80. The method of any of claims 76 to 79, wherein an image of each spoiled element is acquired in the validation step, and each spoiled item notification includes an image of the respective spoiled element.

81. The method of claim 80 when appendant upon claim 60, wherein the image excludes the sensitive information.

82. The method of any of claims 48 to 81, wherein the authentication code embodies value.

83. The method of claim 82, further comprising the step of:
crediting a refund credit register in respect of the value as applied to each spoiled item.

84. The method of claim 82, further comprising the step of:
reusing the authentication code contained in the element of each spoiled item.

85. The method of claim 84, further comprising the step of:
writing an element on each item, wherein, where the element of a previous item is assigned as being spoiled, the written element contains the authentication code contained in the element of the previous item assigned as being spoiled.

86. The method of claim 85 when appendant upon claim 56, wherein the writing step comprises the step of:
printing an imprint as an element on each item.

87. The method of claim 85 when appendant upon claim 58, wherein the writing step comprises the step of:

electronically writing to an electronic label as an element on each item.

88. The method of any of claims 48 to 87, wherein the items comprise documents.

89. The method of claim 88, wherein the documents comprise one or more sheets.

90. The method of claim 88 or 89, wherein the documents comprise mail documents.

91. The method of any of claims 48 to 87, where the items comprise document carriers.

92. The method of claim 91, wherein the document carriers comprise envelopes.

93. The method of claim 91 or 92, wherein the document carriers comprise mail carriers.

94. An item handling system for handling spoiled items including an element containing an authentication code and bearing sensitive information, the system including:
a perforating unit for perforating each spoiled item about the element such as to allow a section of the item including the element and excluding the sensitive information to be separated.

95. An item handling system for handling spoiled items including an element containing an authentication code and bearing sensitive information, the system including:
an obliteration unit for obliterating the sensitive information on each spoiled item.

96. The system of claim 95, wherein the obliteration unit comprises a printer for over-printing the sensitive information such as to render the sensitive information unreadable.

97. The system of claim 95, wherein the obliteration unit comprises an applicator for applying a panel over the sensitive information such as to render the sensitive information unreadable.

98. The system of claim 95, wherein the obliteration unit comprises a cutter for cutting out a section of each spoiled item including the sensitive information such that the item includes no sensitive information.

99. An item handling system for handling spoiled items including an element containing an authentication code and bearing sensitive information, the system including:
a packaging unit for packaging each spoiled item such as to conceal the sensitive information.

100. An item handling system for handling spoiled items including an element containing an authentication code and bearing sensitive information, the system including:
a cover sheet application unit for applying a cover sheet to each item on which an element is provided, such as to allow the cover sheet including the element to be separated from each spoiled item.

101. An item handling system for handling spoiled items including an element containing an authentication code and bearing sensitive information, the system including:
a control unit for controlling operation of the system and including a communications module for electronically communicating with a remote center, wherein the control unit is operative to generate a

spoiled item notification in respect of each spoiled item and transmit the spoiled item notifications electronically to the remote center.

102. An item handling system for handling spoiled items including an element containing an authentication code embodying value and bearing sensitive information, the system including:
a control unit for controlling operation of the system and including a refund credit register, wherein the control unit is operative to credit the refund credit register in respect of the value as applied to each spoiled item.

103. An item handling system for handling spoiled items including an element containing an authentication code embodying value and bearing sensitive information, the system including:
a control unit for controlling operation of the system, wherein the control unit is operative to provide for reuse of the authentication code contained in the element of each spoiled item.

104. A document including an element containing an authentication code and bearing sensitive information, wherein the document is perforated about a section including the element, such as to allow the section of the document including the element and excluding the sensitive information to be separated.

105. The document of claim 104, wherein the document comprises one or more sheets.

106. A document including an element containing an authentication code and bearing sensitive information, wherein the element is attached to the document such as to allow for complete removal therefrom.

107. The document of claim 106, wherein the document comprises one or more sheets.

108. A document including an element containing an authentication code and bearing sensitive information, wherein the document includes a removable label on which the element is provided, wherein the label is attached to the document such as to allow for complete removal thereof.

109. The document of claim 108, wherein the document comprises one or more sheets.